Progress Energy

Crystal River Nuclear Plant
Docket No. 50-302
Operating License No. DPR-72

Ref: 10 CFR 50.54(f)

July 26, 2004
3F0704-11

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
11555 Rockville Pike
Rockville, MD 20852

Subject: Crystal River Unit 3 – 60-day Response to NRC Bulletin 2004-01, "Inspection of Alloy 82/182/600 Materials Used in the Fabrication of Pressurizer Penetrations and Steam Space Piping Connections at Pressurized-Water Reactors"

Reference: NRC Bulletin 2004-01, "Inspection of Alloy 82/182/600 Materials Used in the Fabrication of Pressurizer Penetrations and Steam Space Piping Connections at Pressurized-Water Reactors"

Dear Sir:

Pursuant to 10 CFR 50.54(f), Florida Power Corporation, doing business as Progress Energy Florida, Inc. (PEF), hereby submits the Crystal River Unit 3 (CR-3) 60-Day response to NRC Bulletin 2004-01, "Inspection of Alloy 82/182/600 Materials Used in the Fabrication of Pressurizer Penetrations and Steam Space Piping Connections at Pressurized-Water Reactors."

Attachment A to this letter provides the information requested in Item 1 of the bulletin. PEF concludes that the pressurizer penetration and steam space piping connection inspection program described in Item 1(c) of the attachment is adequate for the purpose of maintaining the integrity of CR-3's Reactor Coolant Pressure Boundary and for meeting all applicable regulatory requirements.

Attachment B provides a regulatory commitment to perform Bare Metal Visual exams on the pressurizer Alloy 182 welds during every refueling outage until mitigation is performed, additional guidance is provided by the Materials Reliability Program (MRP), or new ASME Code or regulatory requirements are imposed.

The information requested in Item 2 of the bulletin will be provided within 60 days of plant restart following the next refueling outage.

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If you have any questions regarding this submittal, please contact Mr. Sid Powell, Supervisor, Licensing and Regulatory Programs at (352) 563-4883.

Sincerely,

Dale E Young

Dale E. Young
Vice President
Crystal River Nuclear Plant

DEY/lvc

Attachments:

A. Response to Items 1(a), 1(b), 1(c) and 1(d) of NRC Bulletin 2004-01, "Inspection of Alloy 82/182/600 Materials Used in the Fabrication of Pressurizer Penetrations and Steam Space Piping Connections at Pressurized-Water Reactors"

B. List of Regulatory Commitments

xc: NRR Project Manager
Regional Administrator, Region II
Senior Resident Inspector

STATE OF FLORIDA

COUNTY OF CITRUS

Dale E. Young states that he is the Vice President, Crystal River Nuclear Plant for Florida Power Corporation, doing business as Progress Energy Florida, Inc.; that he is authorized on the part of said company to sign and file with the Nuclear Regulatory Commission the information attached hereto; and that all such statements made and matters set forth therein are true and correct to the best of his knowledge, information, and belief.

Dale E. Young

Dale E. Young
Vice President
Crystal River Nuclear Plant

The foregoing document was acknowledged before me this 26th day of July, 2004, by Dale E. Young.

Janet Schroeder

Signature of Notary Public
State of Florida

JANET SCHROEDER
MY COMMISSION # DD 128063
EXPIRES: June 20, 2006
Bonded Thru Notary Public Underwriters

(Print, type, or stamp Commissioned Name of Notary Public)

Personally Known ✓ -OR- Produced Identification ______

FLORIDA POWER CORPORATION

CRYSTAL RIVER UNIT 3

DOCKET NUMBER 50-302 / LICENSE NUMBER DPR-72

ATTACHMENT A

Response to Items 1(a), 1(b), 1(c) and 1(d) of Bulletin 2004-01, "Inspection of Alloy 82/182/600 Materials Used in the Fabrication of Pressurizer Penetrations and Steam Space Piping Connections at Pressurized-Water Reactors"

NRC Bulletin 2004-01 requests that Pressurized-Water Reactor (PWR) licensees provide the following information within 60 days of the date of the bulletin.

1(a) A description of the pressurizer penetrations and steam space piping connections at your plant. At a minimum, this description should include materials of construction (e.g., stainless steel piping and/or weld metal, Alloy 600 piping/sleeves, Alloy 82/182 metal weld or buttering, etc.), joint design (e.g., partial penetration welds, full penetration welds, bolted connections, etc.), and, in the case of welded joints, whether or not the weld was stress-relieved prior to being put into service. Additional information relevant with respect to determining the susceptibility of your plant's pressurizer penetrations and steam space piping connections to Primary Water Stress Corrosion Cracking (PWSCC) should also be included.

Response to 1(a)

Table A provides a summary with the information requested in this question.

Post-Weld Heat Treatment:

The pressurizer was constructed in accordance with ASME Boiler and Pressure Vessel Code Section III. The welds deposited on the ferritic pressurizer base materials, including weld joints, Alloy 82/182 buttering, and stainless steel cladding, were subjected to final post-weld heat treatment (PWHT). Wrought stainless steel safe ends were welded with Alloy 82/182 filler material after the final vessel PWHT. The surge nozzle diffuser items, internal spray line items, and the surge nozzle and spray nozzle thermal sleeves were installed after PWHT. The heater bundle was not subjected to PWHT. All internal attachment welds, (e.g., spray line and platform supports) were made after the final PWHT and were welded to the stainless steel cladding, not to the ferritic vessel base material.

The pressurizer surge line is not within the scope of this bulletin and, beyond the information provided above, will not be addressed in this response.

Primary Water Stress Corrosion Cracking Susceptibility:

With the recent and ongoing industry study of primary water stress corrosion cracking (PWSCC), the susceptibility of materials and components is better understood. A susceptible material, a harsh environment, and an uncharacterized residual stress field are the ingredients for PWSCC. From Table A, it is known that susceptible materials are employed in the construction of the pressurizer. Alloy 600 and the Alloy 82/182 weld metal have been demonstrated to be susceptible to PWSCC. A saturated, 650°F two-phase condition, which is the normal operating regime for a pressurizer, has also been demonstrated to be sufficiently harsh as to induce PWSCC. Thirdly, the lack of characterization of residual stresses following manufacture or fabrication adds the final ingredient that cannot be easily mitigated. In summary, anywhere there is Alloy 600 or Alloy 82/182 weldment adjoining the pressurizer's internal environment will likely develop PWSCC in due time.

1(b) A description of the inspection program for Alloy 82/182/600 pressurizer penetrations and steam space piping connections that have been implemented at your plant. The description should include when the inspections were performed; the areas, penetrations and steam space piping connections inspected; the extent (percentage) of coverage achieved for each location which was inspected; the inspection methods used; the process used to resolve any inspection findings; the quality of the documentation of the inspections (e.g., written report, video record, photographs); and, the basis for concluding that your plant satisfies applicable regulatory requirements related to the integrity of pressurizer penetrations and steam space connections. If leaking pressurizer penetrations or steam space connections were found, indicate what followup non destructive examination (NDE) was performed to characterize flaws in the leaking penetrations.

Response to 1(b)

Table B describes the inspection program which is currently implemented at Crystal River Unit 3 (CR-3) for the pressurizer penetrations which have been identified as being constructed using Alloy 82/182/600 weld material. Table B lists the inspection technique, frequency and extent of coverage for these inspections. The specific date of each inspection is also listed.

The pressurizer penetrations are ASME Section XI, Class 1, and have been examined in accordance with the ASME Section XI rules that were applicable at the time of examination. The 1st Interval examinations were performed in accordance with the rules of ASME Section XI 1974 Edition, with Summer 1975 Addenda (March 13, 1977 to March 13, 1987). The 2nd Interval examinations were performed in accordance with the rules of ASME Section XI 1983 Edition, with Summer 1983 Addenda (March 14, 1987 to August 13, 1998). The 3rd Interval (current) examinations were performed in accordance with the rules of ASME Section XI, 1989 Edition no Addenda. See Table B for specific information regarding each connection.

These inspections are scheduled with the remainder of the In-Service Inspection (ISI) exams and are performed by inspectors who are trained and qualified in accordance with ASME Code requirements. In all inspections performed to date, Liquid Penetrant (PT) and Ultrasonic (UT) examinations were performed with no recordable indications detected.

All documentation has been in the form of written NDE reports and each report has received reviews by an NDE Level III Inspector, the Owner representative, and the Authorized Nuclear Inservice Inspector. Results of the examination have been reported to the NRC within 90 days of completion of the respective refueling outage.

In addition to NDE examinations, the pressurizer and associated piping are inspected for evidence of leakage during scheduled refueling outages and selected forced outages in accordance with the CR-3 Boron Acid Corrosion Control Program (plant procedure, EGR-NGGC-0207, Boric Acid Corrosion Control). Potential targets as well as the specific components are inspected for evidence of leakage. To date, three of the upper level sensing nozzles have been found to be leaking and were repaired (Reference 4). These leaks were found using a sonic gun and confirmed by subsequent visual examination. Due to the configuration of the J-groove welds associated with these nozzles, the flaws were not further characterized by NDE (Reference 3).

Also during refueling outages, certified VT-2 inspectors perform visual exams on the Class 1 pressure boundary in accordance with CR-3 plant procedure SP-204 (Class 1 System, System Leakage Test for Inservice Inspection), as required by the ASME Code, Section XI. The scope of the inspection boundary includes the pressurizer penetrations and associated piping. In response to Operating Experience associated with Alloy 600, CR-3 added these welds to the Augmented ISI Program and has performed Bare Metal Visuals of highly susceptible welds since 1999.

The Acceptance Standard provided within the 1989 Edition of the ASME Boiler & Pressure Vessel Code for the referenced VT-2 visual examinations is identified in IWB-3522, which requires correction of pressure boundary leakage prior to continued service. CR-3 maintains procedures and programs to implement these requirements (EGR-NGGC-0207 and SP-204).

The acceptance criterion for these procedures is that no through-wall leakage exists. In the event that leakage is identified, corrective actions are taken in accordance with plant procedures and the ASME Code prior to continued plant operation. Any leakage that may affect system operability will be quantified, and dispositioned per CR-3 plant procedure CP-150, Identifying and Processing Operability Concerns. Plant procedures require that all evaluations of leakage consider the effect on components in the leak path.

Table B also indicates when the 100% Bare Metal Visual (BMV) examinations are currently scheduled to be performed. The scheduled examinations comply with guidance provided by the Materials Reliability Program (MRP) in the letter from Leslie Hartz dated January 20, 2004, and is in response to industry experience as discussed in NRC Information Notice 2004-11.

CR-3 Improved Technical Specification (ITS) 3.4.12, "RCS Operational LEAKAGE," LCO 3.4.12a states, "RCS operational LEAKAGE shall be limited to: No pressure boundary LEAKAGE." Discovery of Reactor Coolant Pressure Boundary leakage would require the plant to shutdown.

These examinations meet or exceed the requirements of ASME Section XI and satisfy all applicable regulatory requirements. The basis for this conclusion is contained in the response to NRC Request 1(d), below.

1(c) A description of the Alloy 82/182/600 pressurizer penetration and steam space piping connection inspection program that will be implemented at your plant during the next and subsequent refueling outages. The description should include the areas, penetrations and steam space piping connections to be inspected; the extent (percentage) of coverage to be achieved for each location; inspection methods to be used; qualification standards for the inspection methods and personnel; the process used to resolve any inspection indications; the inspection documentation to be generated; and the basis for concluding that your plant will satisfy applicable regulatory requirements related to the structural and leakage integrity of pressurizer penetrations and steam space piping connections. If leaking pressurizer

penetrations or steam space piping connections are found, indicate what followup NDE will be performed to characterize flaws in the leaking penetrations. Provide your plans for expansion of the scope of NDE to be performed if circumferential flaws are found in any portion of the leaking pressurizer penetrations or steam space connections.

Response to 1(c)

Table B describes the inspection program which will be implemented at CR-3 for the pressurizer penetrations which have been identified as being constructed using Alloy 82/182/600 weld material. Table B lists the inspection technique, frequency and extent of coverage for these inspections. The UT and PT examinations will be scheduled with the remainder of the ISI exams and will be performed in accordance with the rules of ASME Section XI by inspectors who are trained and qualified in accordance with ASME Code requirements.

In addition, Bare Metal Visual exams will be performed on the pressurizer Alloy 182 welds during every refueling outage until mitigation is performed, additional guidance is provided by the Materials Reliability Program (MRP), or new ASME Code or regulatory requirements are imposed. Visual aids, as necessary, and visual examination personnel will be certified in accordance with Progress Energy's written practice and ASME Section XI, as supplemented by the March 2002 Electric Power Research Institute (EPRI) report, as applicable.

Also, as discussed in the response to NRC Request 1(b) above, inspections of the pressurizer penetrations and associated piping at CR-3 will continue to be performed as part of the ASME Section XI, Class 1 system leakage test. These inspections are performed during each refueling outage with the system at normal operating pressure and temperature, with insulation on. These inspections are VT-2 exams performed under CR-3 plant procedure (SP-204) in accordance with ASME Section XI requirements, and are documented on a system pressure test report in accordance with the CR-3 ASME Section XI Program.

Finally, a visual examination of borated system pressure boundary components in the Containment Building is performed near the beginning of each Refueling Outage (RFO), as part of the Boric Acid Corrosion Control Program. The examination will be documented and evaluated in accordance with EGR-NGGC-0207.

In all cases, each finding of evidence of leakage will be documented. Video and photographic images taken to support the examination findings will supplement the report as necessary. The source of the leakage will be identified. Collection of samples for chemical and/or isotopic analysis would be used, as appropriate, to help identify the source and/or determine the age of the deposits.

CR-3 will utilize the Boric Acid Corrosion Control Program and the Corrective Action Program, as applicable, to evaluate findings of boric acid deposits or other evidence of leakage. In addition, where evidence of leakage is discovered by visual examination, NDE capable of determining crack orientation will be performed in order to accurately characterize the flaw and the extent of the condition. If the weld geometry is not favorable to characterize the flaw (i.e., J-groove welds), then a relief request will be submitted to the NRC for approval. The specific type of NDE examination to be performed will be determined based upon location, configuration and other relevant factors. A decision will then be made, consistent with EPRI guidance and industry experience, on the corrective action to be taken and the need to expand the scope of NDE examinations.

The basis for concluding that the CR-3 Boric Acid Corrosion Control Program satisfies applicable regulatory and Code requirements was provided in the CR-3 60-Day Response to Bulletin 2002-01 (Reference 1) and in the CR-3 response to the NRC's Request for Additional Information on Bulletin 2002-01 (Reference 2, Question 9). Furthermore, as described above, CR-3 has been proactive in responding to industry experience by implementing additional and more detailed inspections for the pressurizer penetrations, which exceed ASME Code, Section XI, and 10 CFR 50.55a, "Codes and Standards," requirements for the examination, evaluation, and repair of code class components. This inspection program will ensure that the structural and leakage integrity of the pressurizer penetrations is maintained.

CR-3 will continue to monitor industry experience, Code changes and MRP recommendations to ensure that plant-specific inspection plans are prudent based on the knowledge available in order to ensure that the structural and leakage integrity of the pressurizer penetrations and associated piping is maintained.

These examinations meet or exceed the requirements of ASME Section XI and satisfy all applicable regulatory requirements. The basis for this conclusion is contained in the response to NRC Request 1(d), below.

1(d) In light of the information discussed in this bulletin and your understanding of the relevance of recent industry operating experience to your facility, explain why the inspection program identified in your response to item (1)(c) above is adequate for the purpose of maintaining the integrity of your facility's Reactor Coolant Pressure Boundary (RCPB) and for meeting all applicable regulatory requirements which pertain to your facility.

<u>Response to 1(d)</u>

Consideration of recent industry operating experience

In addition to ASME Code-required inspections, CR-3 has implemented an enhanced inspection program which takes into account recent industry operating experience in order to maintain the integrity of the RCPB. CR-3 is complying with all MRP guidance related to the pressurizer penetrations, as well as all other Alloy 600/82/182 locations. CR-3 will continue to monitor industry experience, Code changes and MRP recommendations to ensure that site-specific inspection plans are prudent based on the knowledge available in order to ensure that the structural and leakage integrity of the RCPB is maintained.

Applicable Regulatory Requirements

The basis for concluding that the CR-3 Boric Acid Corrosion Control Program satisfies applicable regulatory and Code requirements was provided in the CR-3 60-Day Response to

Bulletin 2002-01 (Reference 1) and in the CR-3 response to the NRC's Request for Additional Information on Bulletin 2002-01 (Reference 2, Question 9). Furthermore, as described above, CR-3 has been proactive in responding to industry experience by implementing additional and more detailed inspections for the pressurizer penetrations, which exceed ASME Code, Section XI, and 10 CFR 50.55a, "Codes and Standards," requirements for the examination, evaluation, and repair of code class components.

REFERENCES

1. FPC to NRC letter, 3F0502-01, dated May 15, 2002, Crystal River Unit 3 – 60-Day Response to Bulletin 2002-01, "Reactor Pressure Vessel Head Degradation and Reactor Coolant Pressure Boundary Integrity"

2. FPC to NRC letter, 3F0103-03, dated January 28, 2003, Crystal River Unit 3 – Response to Request for Additional Information, Bulletin 2002-01, "Reactor Pressure Vessel Head Degradation and Reactor Coolant Pressure Boundary Integrity"

3. PEF to NRC letter, 3F1003-02, dated October 5, 2003, Crystal River Unit 3 – Relief Requests 03-0001-RR, Revision 0, and 03-0002-RR, Revision 0

4. Licensee Event Report 50-302/03-003-00, dated November 19, 2003, Reactor Coolant System Pressure Boundary Leakage Limit Exceeded Due to Pressurizer Instrument Tap Nozzle Cracks

Table A

CR-3 Pressurizer Penetrations and Steam Space Piping Connections: Summary of Component Materials of Construction and Joint Design

Component and ISI Program Identifier	Material(s)	Joint Design
One 1-inch Vent and Sample Nozzle	Alloy 600 (nozzle) Alloy 182 (weld)	A 1-inch, Schedule 160 vent and sampling nozzle is located at the top center of the upper head. The nozzle is joined to the interior of the upper head using a J-groove Alloy 182 weld.
Three 2.5-inch Pressure Relief Nozzle and Safe End	Nozzle: SS clad carbon steel Welds: Alloy 82/182 Butter: Alloy 182 Safe End: SS 316, SA182	The nozzles are connected to the pressure relief devices. Each pressure relief nozzle is joined to the upper head with a full penetration weld (carbon steel weld). A Type 316 stainless steel safe end (also called long weld necks) was attached to the top of the pressure relief nozzles using a full penetration V-groove Alloy 82/182 weld. Each nozzle was buttered with Alloy 182 before welding. The stainless steel safe ends have integral flanges containing eight equally spaced bolt holes for attaching the pressure relief valves or Power Operated Relief block Valve.
One 4-inch Spray Nozzle, Safe End, and Extension Pins	Nozzle: SS clad carbon steel Welds and weld buttons: Carbon steel and Alloy 82 Weld pads: Alloy 182 Safe End: Alloy 600 Extension pin: Alloy 600 Extension pin welds: Alloy 82	The 4-inch, Schedule 120 spray nozzle is located on the pressurizer upper head and is connected to the external stainless steel spray line from the discharge of a reactor coolant pump. Inside the head, the nozzle is attached to a stainless steel spray line and spray head. The nozzle is mounted normally to the curvature of the pressurizer upper head, entering at a 45° angle from the horizontal. The nozzle body is joined to the upper head with a full penetration weld (carbon steel weld). Alloy 600 transition pieces are welded on both ends of the nozzle, an 8-inch long safe end connecting with the stainless steel external spray line, and a 5-inch long "extension pin" that connects to the internal stainless steel spray line. On the top of the nozzle body, the Alloy 600 (SB-166) safe end is attached to the 4-inch spray nozzle with a full penetration V-groove Alloy 82 weld. Below the nozzle body, the Alloy 600 (SB-166) extension pin is attached to the stainless steel weld build-up on the inside of the carbon steel shell using a full penetration V-groove Alloy 82 weld. A stainless steel thermal sleeve is installed on the inside of the spray nozzle body to provide protection from thermal stresses. There are four Alloy 82 weld buttons on the inside surface just above the thermal sleeve and four Alloy 182 weld pads just below the thermal sleeve. The buttons and pads minimize the chances of the thermal sleeve from becoming a loose part.

Table A

CR-3 Pressurizer Penetrations and Steam Space Piping Connections: Summary of Component Materials of Construction and Joint Design

Component and ISI Program Identifier	Material(s)	Joint Design
One 1½ -inch Thermowell	Thermowell: Alloy 600 Weld: Alloy 182	The 1½-inch thermowell is a closed penetration located in the side of the pressurizer shell about 9 feet from the bottom of the vessel. It is located just above the upper heater bundle, extending 4 inches into the water space. The outer end of the thermowell is threaded to hold the resistance temperature element (RTE) sensor. The thermowell is welded to the interior of the vessel wall by an Alloy 182 J-groove weld.
Three 1-inch Level Sensing Nozzles (Water Space)	Nozzle: Alloy 600 Welds: Alloy 182	Each nozzle is attached to the pressurizer vessel shell inside diameter (I.D.) surface with an Alloy 82/182 partial penetration (J-groove) weld without buttering.
Three 1-inch Level Sensing Nozzles (X022) (Steam Space)	Nozzle: Originally Alloy 600; replaced in 2003 with Alloy 690 Weld: Originally Alloy 182; replaced in 2003 with Alloy 52	Upon the discovery of leakage at these nozzles, most of the original Alloy 600 nozzles were cut and removed. However, the cracked portion of the original nozzles, including the Alloy 182 J-groove weld, remain attached to the inside surface of the vessel shell.The three new Alloy 690 nozzles were attached to the pressurizer shell outside diameter surface using partial penetration Alloy 52 welds. The new Alloy 690 nozzles extend into the pressurizer shell to ~1/16 inch of the original Alloy 600 nozzles, leaving a ~1/16 inch circumferential gap between the original and new nozzles, within the thickness of the pressurizer shell.
Diaphragm Type Heater Bundle Assembly	Diaphragm Plate: SS 304 Heater Sheath: SS 316L Welds: SS	The heater belt forgings have three 19-inch openings, located in the side of the pressurizer shell, to accommodate the three heater bundles. Each originally installed heater bundle is comprised of three parallel disks drilled to hold 39 individual immersion heaters. The outermost of the three disks, the heater bundle diaphragm plate, mates with and forms a seating surface with the heater belt forging penetration. The other two discs, called support plates, are fabricated from stainless steel. The heater bundle cover plates are bolted on the outer surface of the diaphragm plates, holding the diaphragm plates against the mating surface and providing support for the heater bundle assembly. The stainless steel diaphragm plate is welded to the Type 316L stainless steel heater sheath by a stainless steel fillet weld.
One 1-inch Sample Nozzle (Water Space)	Nozzle: Alloy 600 Weld: Alloy 82/182	The nozzle is attached to the pressurizer vessel shell I.D. surface with an Alloy 82/182 partial penetration (J-groove) weld without buttering.

Table B

CR-3 Pressurizer Penetrations and Steam Space Piping Connections: Summary of Past and Scheduled Inspections

Component and ISI Program Identifier	Material	ASME XI Code Exam Method (>90% Coverage) and Date Performed	Visual Inspections Performed (100%)	Comments	Scheduled Exams	Visual Exams Scheduled (100%)
1-inch Vent and Sample Nozzle to Upper Head J-groove Weld (X009)	Alloy 182	N/A	BMV performed in 10/2001 and 10/2003	VT-2 performed every Outage per ASME Section XI	N/A	BMV every Refuel Outage
2.5 inch Pressure Relief Nozzle to Safe End Weld and Nozzle Butter (B4.1.3, B4.1.4, and X026)	Alloy 82/182	UT in 10/1981 PT in 10/1981 UT in 6/1992 PT in 6/1992	BMV performed 10/2003	VT-2 performed every Outage per ASME Section XI	PT in 10/2007 (Once per 10 years per ASME Section XI)	BMV every Refuel Outage
2.5 inch Pressure Relief Nozzle to Safe End Weld and Nozzle Butter (B4.1.5, B4.1.6, and X026)	Alloy 82/182	UT in 4/1983 PT in 4/1983 UT in 6/1992 PT in 6/1992	BMV performed 10/2003	VT-2 performed every Outage per ASME Section XI	PT in 10/2007 (Once per 10 years per ASME Section XI)	BMV every Refuel Outage
2.5 inch Pressure Relief Nozzle to Safe End Weld and Nozzle Butter (B4.1.7, B4.1.8, and X026)	Alloy 82/182	UT in 5/1985 PT in 5/1985 UT in 4/1994 PT in 4/1994	BMV performed 10/2003	VT-2 performed every Outage per ASME Section XI	PT in 10/2005 (Once per 10 years per ASME Section XI)	BMV every Refuel Outage
4 inch Safe End to Spray Nozzle Weld (B4.1.1, B4.1.2, and X007)	Alloy 82	UT in 5/1978 PT in 5/1978 PT in 5/1990 UT in 6/1992	BMV performed 10/1999 and 10/2003	VT-2 performed every Outage per ASME Section XI	UT in 10/2005 PT in 10/2005 (Once per 10 years per ASME Section XI)	BMV every Refuel Outage
Extension Pin to Spray Nozzle Weld (X008)	Alloy 82	N/A	N/A	Internal to vessel	N/A	Visual when manway opened for maintenance.

Table B

CR-3 Pressurizer Penetrations and Steam Space Piping Connections: Summary of Past and Scheduled Inspections

Component and ISI Program Identifier	Material	ASME XI Code Exam Method (>90% Coverage) and Date Performed	Visual Inspections Performed (100%)	Comments	Scheduled Exams	Visual Exams Scheduled (100%)
Extension Pin to Internal Spray Pipe (X008)	Alloy 82	N/A	N/A	Internal to vessel	N/A	Visual when manway opened for maintenance.
4 Upper Weld Buttons (X008)	Alloy 82	N/A	N/A	Internal to vessel	N/A	Visual when manway opened for maintenance.
4 Lower Weld Pads (X008)	Alloy 82	N/A	N/A	Internal to vessel	N/A	Visual when manway opened for maintenance.
1½ -inch Thermowell to Pressurizer J-groove Weld (X005)	Alloy 182	N/A	BMV performed 10/1999 and 10/2003	VT-2 performed every Outage per ASME Section XI	N/A	BMV every Refuel Outage
1-inch Level Sensing Nozzle (X022) (Steam Space Qty 3)	Originally Alloy 182, Replaced in 2003 with Alloy 690/52 weld material	N/A	BMV performed 10/2003	VT-2 performed every Outage per ASME Section XI	N/A	BMV during Refuel Outage following replacement, then once every 10 years
1-inch Level Sensing Nozzle to Pressurizer Shell J-groove Weld, (X006) (Water Space Qty 3)	Alloy 182	N/A	BMV performed 10/1999 and 10/2003	VT-2 performed every Outage per ASME Section XI	N/A	BMV every Refuel Outage
1-inch Sampling Nozzle to Pressurizer Shell J-groove Weld, (X023)	Alloy 182	N/A	BMV performed 10/2003	VT-2 performed every Outage per ASME Section XI	N/A	BMV every Refuel Outage

FLORIDA POWER CORPORATION

CRYSTAL RIVER UNIT 3

DOCKET NUMBER 50-302 / LICENSE NUMBER DPR-72

ATTACHMENT B

List of Regulatory Commitments

List of Regulatory Commitments

The following table identifies those actions committed to by Florida Power Corporation, doing business as Progress Energy Florida, Inc., in this document. Any other actions discussed in the submittal represent intended or planned actions by Florida Power Corporation. They are described to the NRC for the NRC's information and are not regulatory commitments. Please notify the Supervisor, Licensing and Regulatory Programs, of any questions regarding this document or any associated regulatory commitments.

ID Number	Commitment	Commitment Date
3F0704-11	Bare Metal Visual exams will be performed on the pressurizer Alloy 182 welds during every refueling outage until mitigation is performed, additional guidance is provided by the Materials Reliability Program (MRP), or new ASME Code or regulatory requirements are imposed. Visual aids, as necessary, and visual examination personnel will be certified in accordance with Progress Energy's written practice and ASME Section XI, as supplemented by the March 2002 Electric Power Research Institute (EPRI) report, as applicable.	Every Refueling Outage